

CLAIMS

1. – 24. (Canceled.)

25. (New) A computer-implemented method, comprising:

providing access to an extensible markup language (XML) schema validation model of an application program to modify the XML schema validation model as the XML schema validation model will be applied to one or more XML documents to be submitted to the application program, the access being provided by one or more of:

an application programming interface; and

a set of message calls;

passing to the XML schema validation model at least one object property configured to implement a modification in the XML schema validation model to be associated with one or more XML documents, wherein the modification includes one or more of:

a change to an existing XML schema employed by the XML schema validation model; and

one or more additional XML schemas;

receiving the modification in the XML schema validation model; and

applying the XML schema validation model including the modification to the one or more XML documents.

26. (New) The computer-implemented method of Claim 25, whereby the at least one object property includes an object property for determining a format of error messages presented by the XML schema validation model related to schema file validations.

27. (New) The computer-implemented method of Claim 25, whereby the at least one object property includes passing an object method or accessing one or more individual members of an XML child node suggestions collection as defined by an associated XML schema file and current editing context within a document associated with the XML schema file.

28. (New) The computer-implemented method of Claim 25, whereby the at least one object property includes an object method for inserting an XML element into a document whereby the object method includes a range parameter for pointing to a part of the document where the XML element is to be inserted.

29. (New) The computer-implemented method of Claim 25, whereby the at least one object property includes an object method for customizing schema validation error notifications from the XML schema validation model.

30. (New) The computer-implemented method of Claim 25, whereby the at least one object property includes an object method for requesting validation of a specified XML element applied to a document.

31. (New) The computer-implemented method of Claim 25, whereby the at least one object property includes an object method for attaching a user-specified XML schema file to a document.

32. (New) The computer-implemented method of Claim 25, whereby the at least one object property includes an object property for directing the XML schema validation model to allow saving a document as an XML document where saving the document as an XML document violates an associated XML schema file.

33. (New) The computer-implemented method of Claim 25, whereby the at least one object property includes an object property for causing the XML schema validation model to allow mixed content data entry into a document where the mixed content data entry otherwise violates an associated XML schema file.

34. (New) The computer-implemented method of Claim 25, whereby the at least one object property includes an object method for accessing a specified XML schema file associated with a document from a collection of XML schema file references whereby a parameter associated with the specified XML schema reference is passed to the XML schema validation model with the object method.

35. (New) The computer-implemented method of Claim 25, whereby the at least one object property includes an object property for controlling whether XML schema violations are highlighted in a document by the XML schema validation model.

36. (New) The computer-implemented method of Claim 25, whereby the at least one object property includes an object method requiring the XML schema validation model to validate a document against all XML schema files associated with the document.

37. (New) The computer-implemented method of Claim 25, whereby the at least one object property includes an object property for removing an XML schema file reference from a document and for removing the XML schema file reference from a schema file references collection.

38. (New) The computer-implemented method of Claim 25, whereby the at least one object property includes an object method to the XML schema validation model for re-associating a specified schema file with a document where the specified schema file was previously removed from association with the document.

39. (New) The computer-implemented method of Claim 25, further comprising:

determining the object property seeks a response by the XML schema validation model;

receiving the response of the XML schema validation model; and

providing the response of the XML schema validation model through one of:

the application programming interface; and

the set of message calls.

40. (New) The computer-implemented method of Claim 39, whereby the at least one object property includes an object property for returning one of:

- a list of all XML schema files associated with a document;
- a description text of a specified XML schema violation for a specified XML element applied to a document;
- a location of a specified XML schema file;
- a Namespace uniform resource identifier associated with a specified XML schema file;
- a list of all XML elements suggested by the application program based on an XML schema file associated with a document and based on an editing context within the document;

and

- a list of all XML elements in a document associated with an XML schema violation based on an associated XML schema file.

41. (New) A computer-readable storage medium storing instructions executable by a computer system to yield a result, comprising instructions to:

provide a programmable object model allowing a first programming object to apply a modification to an Extensible Markup Language (XML) schema validation model of a second programming object, wherein the XML schema validation model is configured to validate one or more XML documents according to one or more available XML schemas;

configure the programmable object model of the first programming object to communicate with the XML schema validation model of the second programming object by passing at least one object property to the XML schema validation model, wherein the at least one object property is configured to direct the XML schema validation model to one of:

modify operation of the XML schema validation model;

make a change to an existing XML schema employed by the XML schema validation model; and

associate one or more additional XML schemas with the XML schema validation model.

42. (New) The computer-readable storage medium of Claim 41, wherein the programmable object model is configured to communicate with the XML schema validation model of the second programming object using one or more of:

an application programming interface; and

a set of message calls.

43. (New) The computer-readable storage medium of Claim 41, wherein the at least one object property is configured to one or more of:

- determine a format of error messages presented by the XML schema validation model related to schema file validations;
- access one or more individual members of an XML child node suggestions collection as defined by an associated XML schema file and current editing context within a document associated with the XML schema file;
- insert an XML element into a document whereby the object method includes a range parameter for pointing to a part of the document where the XML element is to be inserted;
- customize schema validation error notifications from the XML schema validation model;
- request validation of a specified XML element applied to a document;
- attach a user-specified XML schema file to a document;
- save a document as an XML document where saving the document as an XML document violates an associated XML schema file;
- cause the XML schema validation model to allow mixed content data entry into a document where the mixed content data entry otherwise violates an associated XML schema file;
- access a specified XML schema file associated with a document from a collection of XML schema file references whereby a parameter associated with the specified XML schema reference is passed to the XML schema validation model with the object method;
- control whether XML schema violations are highlighted in a document by the XML schema validation model;

require the XML schema validation model to validate a document against all XML schema files associated with the document;

remove an XML schema file reference from a document and for removing the XML schema file reference from a schema file references collection; and

re-associate a specified schema file with a document where the specified schema file was previously removed from association with the document.

44. (New) The computer-readable storage medium of Claim 41, further comprising one or more additional object properties configured to receive information from the XML schema validation model, the information including one or more of:

a list of all XML schema files associated with a document;

a description text of a specified XML schema violation for a specified XML element applied to a document;

a location of a specified XML schema file;

a Namespace uniform resource identifier associated with a specified XML schema file;

a list of all XML elements suggested by the application program based on an XML schema file associated with a document and based on an editing context within the document;
and

a list of all XML elements in a document associated with an XML schema violation based on an associated XML schema file.

45. (New) A computer-readable storage medium storing instructions executable by a computer system to yield a result, comprising instructions to:

- provide an interface to an XML schema validation model associated with a programming object to receive a modification to one or more XML schemas to be used by the XML schema validation model presented to validate one or more XML documents presented to the programming object;
- configure the interface to receive at least one object property configured to:
 - modify operation of the XML schema validation model;
 - modify an XML schema used by the XML schema validation model; and
 - add an additional XML scheme for use by the XML schema validation model;
- direct the XML validation model to apply at least one of the modified XML schema and the additional XML schema to validate the one or more XML documents.

46. (New) The computer-readable storage medium of Claim 45, wherein the interface includes one of:

- an application programming interface providing access to the XML schema validation model; and
- a set of message calls to which the XML schema validation model is responsive.

47. (New) The computer-readable storage medium of Claim 45, wherein the at least one object property is configured to at least one of:

- determine a format of error messages presented by the XML schema validation model related to schema file validations;
- access one or more individual members of an XML child node suggestions collection as defined by an associated XML schema file and current editing context within a document associated with the XML schema file;
- insert an XML element into a document whereby the object method includes a range parameter for pointing to a part of the document where the XML element is to be inserted;
- customize schema validation error notifications from the XML schema validation model;
- request validation of a specified XML element applied to a document;
- attach a user-specified XML schema file to a document;
- save a document as an XML document where saving the document as an XML document violates an associated XML schema file;
- cause the XML schema validation model to allow mixed content data entry into a document where the mixed content data entry otherwise violates an associated XML schema file;
- access a specified XML schema file associated with a document from a collection of XML schema file references whereby a parameter associated with the specified XML schema reference is passed to the XML schema validation model with the object method;
- control whether XML schema violations are highlighted in a document by the XML schema validation model;

require the XML schema validation model to validate a document against all XML schema files associated with the document;

remove an XML schema file reference from a document and for removing the XML schema file reference from a schema file references collection; and

re-associate a specified schema file with a document where the specified schema file was previously removed from association with the document.

48. (New) The computer-readable storage medium of Claim 45, further comprising one or more additional object properties to which the XML schema validation model will provide information via the interface, the information including one or more of:

a list of all XML schema files associated with a document;

a description text of a specified XML schema violation for a specified XML element applied to a document;

a location of a specified XML schema file;

a Namespace uniform resource identifier associated with a specified XML schema file;

a list of all XML elements suggested by the application program based on an XML schema file associated with a document and based on an editing context within the document;
and

a list of all XML elements in a document associated with an XML schema violation based on an associated XML schema file.